

MEKRASOV, Mikhail Makarovich, dotsent, kand. tekhn. nauk; IL'CHENKO, Nikolay
Semenovich, dotsent, kand. tekhn. nauk; KLETCHENKOV, Ivan Ivanovich,
aspirant.

Enamel-lacquer for conductors made from modified laquers. Izv.
vys. ucheb. zav.; elektromekh. 2 no.6:93-95 '59.

(MIRA 12:11)

1.Zaveduyushchiy kafedroy dielektrikov i poluprovodnikov Kiyevskogo
politeknicheskogo instituta (for Mekrasov). 2.Kafedra dielektrikov
i poluprovodnikov Kiyevskogo politeknicheskogo instituta (for
Il'chenko). 3.Kiyevskiy politeknicheskii institut (for Kletchenkov).
(Electric insulators and insulation)

SOV/144-59-5-11/14

AUTHORS: Nekrasov, M.M., Candidate of Technical Sciences, Docent,
Kletchenkov, I.I., Aspirant

TITLE: Modified Silicone Insulation

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektro-
mekhanika, 1959, Nr 5, pp 98 - 100 (USSR)

ABSTRACT: Insulating materials based on organic polymeric resins modified by polyorganosiloxanes are of considerable interest. These materials have good adhesion to metals, a resistance to heat which is nearly as good as that of ordinary silicone resins, and high drying-speeds. Resins that may be modified include polyesters, epoxides, polyvinylacetyls, phenolformaldehydes and others. Moreover, the process of combined polymerisation of certain organic polymers (oils and resins) with monomers or polyorganosiloxanes can also give technically valuable products. By this process of co-polymerisation, the authors developed a series of modified silicones, and in particular a combination of silicone and tung oil designated SK-3. They also used polyorganosiloxane fluids Nrs 2, 3, 4 and 9 (of the All-Union Electro-Technical Institute nomenclature). Insulation based on modified silicones has a

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Modified Silicone Insulation

good resistance to moisture and oil, is flexible and of good insulating properties. For example, samples of cable paper (K-12) of 100 x 100 mm were impregnated with silicone fluid Nr 2, pure silicone varnish EF-3 and co-polymer SK-3. The samples were heat-treated at a temperature of 150 - 160°C, which did not impair the mechanical properties of the paper; they were then weighed and maintained in a wet atmosphere for 40 hours. The results of the tests are given in Figure 1 and it will be seen that treatment with co-polymer SK-3 gives the least water absorption, the weight increase being only 1.4%. Electric strength tests results on the material after exposure to moist atmosphere are recorded in Figure 2; it will be seen that co-polymer SK-3 gives the best results. Varnish SK-3 was also used to impregnate the annular windings of a transformer used in welding large pipes. It operates under particularly difficult conditions; on pipelines its primary winding is

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80V/144-59-5-11/14

Modified Silicone Insulation

very near the welds and is exposed to high temperatures, steam and bad weather. The coils impregnated with SK-3 were compared with other types, including the standard product impregnated with varnish Nr 460, and the best results are tabulated. The performance of the coils impregnated with co-polymer SK-3 was particularly good. It is concluded that modified silicone insulation is very useful for electrical equipment exposed to high temperatures and humidity.. Modified silicone insulation has the advantage that it is only a quarter of the cost of insulation based on pure silicone compositions. The resistance to heat of the modified silicones is not quite as good as that of the straight silicones, but the adhesion, elasticity and mechanical properties are usually much better.

There are 2 figures, 1 table and 2 Soviet references.

ASSOCIATION: Kafedra dielektrikov i poluprovodnikov, Kiyevskiy polit-ekhnicheskij institut (Chair of Dielectrics and Semiconductors, Kiev Polytechnical Institute)

SUBMITTED: April 28th, 1959.

Card 3/3

KLETCHENKOV, I. I.

PHASE I BOOK EXPLOITATION

SOV/6229

Alent'yev, Aleksandr Aleksandrovich, Ivan Ivanovich Kletchenkov
and Aleksandr Aleksandrovich Pashchenko

Kremniyorganicheskiye gidrofobizatory (Hydrophobic Organosilicons).
Kiyev, Gostekhizdat USSR, 1962. 109 p. 600 copies printed.

Ed.: V. N. Gavrilov; Tech. Ed.: K. F. Gusarov.

PURPOSE: This booklet is intended for technical and scientific
personnel concerned with the development of processes of water-
proofing materials.

COVERAGE: The booklet deals with hydrophobic organosilicons. The
use of organosilicon compounds for waterproofing glass, honey-
comb concrete, porous silicate cement, and cellulose materials
is discussed. The technology of waterproofing materials and
methods for determining their waterproofness are described in
detail. The chemistry and development of organosilicon compounds
is reviewed. The booklet is based on the works of K. A. Andrianov,

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Hydrophobic Organosilicons

SOV/6229

A. P. Kreshkov, B. N. Dolgov, S. A. Yamanov, and M. G. Voronkov.
There are 85 references: 31 Soviet, 33 English, 15 German,
4 French, and 2 Ukrainian.

TABLE OF CONTENTS:

Foreword	3
Ch. I. Chemistry of Organosilicon Compounds	6
1. Main stages in the development of the chemistry of organosilicon compounds	6
2. Organosilicon compounds and their properties	15
3. Principal methods of producing monomeric organosilicon compounds	26
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ACCESSION NR: APL020294

S/0139/64/000/001/0023/0025

AUTHORS: Nekrasov, M. M.; Kletchenkov, I. I.; Zinkevich, R. A.

TITLE: Low voltage nonlinear resistance in doped silicon carbide

SOURCE: IVUZ. Fizika, no. 1, 1964, 23-25

TOPIC TAGS: resistance, low voltage resistance, low voltage nonlinear resistance, silicon carbide, doped silicon carbide, volt ampere characteristic, chromium boride, silicon, silica, beryllium oxide

ABSTRACT: Nonlinear resistance has been measured for the system $\text{SiC-CrB}_2\text{-Si}(\text{SiO}_2, \text{BeO})$, that is, SiC with additions of $\text{CrB}_2\text{-Si}$, $\text{CrB}_2\text{-SiO}_2$, and $\text{CrB}_2\text{-BeO}$. Samples with contents of 1, 2, 5, 10, and 15% CrB_2 were obtained, and it was found that with increase of CrB_2 content above 2% nonlinearity of the volt-ampere characteristics declined. This is probably due to formation of conductive bridges of CrB_2 . The introduction of Si , SiO_2 , or BeO along with CrB_2 increased the electrical resistance and made it possible to obtain nonlinear resistance with a coefficient of nonlinearity as high as 4 (in samples that are highly moisture resistant and heat resistant and that are very stable under operating conditions). The general

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ACCESSION NR: AP4020294

range of the nonlinear factor with these additions was 2 to 3.5. Best results were obtained by adding about 10% of this bonding material to SiC. Orig. art. has: 3 figures.

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskiy institut (Kiev Polytechnical Institute)

SUBMITTED: 03Oct62

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: PH

NO REF SOV: 000

OTHER: 000

Card 2/2

NEKRASOV, M.M., kand. tekhn. nauk; KLETCHENKOV, I.I., kand. tekhn. nauk;
BORODINA, S.A.

Tunnel transistors. Avtom. i prib. no.3:13-16 J1-S '64.
(MIRA 18:3)

I 43051-66 EWT(1)/EWT(m)/EWP(v)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HM/AT

ACC NR: AR6017159 SOURCE CODE: UR/0275/66/000/001/B039/B039

AUTHOR: Kletchenkov, I. I.

TITLE: A new method of obtaining a point-contact p-n junction in n-type silicon

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 1B317

REF SOURCE: Vestn. Kiyevsk. politekhn. in-ta, Ser. avtomatiki, elektropriborostr. i radioelektron., no. 1, 1964, 161-165

TOPIC TAGS: p-n junction, n type silicon, aluminum wire

ABSTRACT: A fine aluminum wire is welded onto a n-type silicon wafer by passing single sawtooth pulses through the contact with the wafer. I. B. [Translation of abstract] [kr]

SUB CODE: 20,13/ ~~SUBM DATE: none~~

Card 1/1

UDC: 621.382.002.546.28

L 08574-67 EWT(d)/EWT(1)/EWP(1) LJP(o) OQ/BB

ACC NR:

AR603208

SOURCE CODE: UR/0271/66/000/007/B027/B027

AUTHOR: Kletchenkov, I. I. 48

TITLE: OR-, AND-, and INHIBITOR-type diode logic circuits of microminiature design 16C

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 7B197

REF SOURCE: Vestn. Kiyevsk. politekhn. in-ta. Ser. radioelektron., no. 2, 1965, 127-131

TOPIC TAGS: logic circuit, logic design, silicon diode, pn junction, AND circuit, OR circuit, INHIBITOR circuit, microminiature design, n type silicon

ABSTRACT: A method of producing OR-, AND-, and INHIBITOR-type diode logic circuits with three microminiature inputs is described. It is based on a new method of obtaining point-contact p-n junctions on n-type silicon. The p-n junction is produced by fusing a thin aluminum wire to an n-type silicon crystal, while a single pulse of sawtooth current is transmitted through the contact between the wire and the silicon. To microminaturize the OR circuit, all its elements utilize one silicon

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UDC: 681.142.67

ACC NR: AR6032085

crystal. In microminiaturized AND and INHIBITOR circuits, all the circuit diodes utilize one silicon crystal, while the other elements of the circuit, i. e. resistances are microminiature volume resistors. Orig. art. has: 6 illustrations.
[Translation of abstract]

SUB CODE: 09/

Cord 2/2

KLETECKA.

PRESL, J.; HERZMANN, J.; KLETECKA, P.; VOHNOUT, S.; RÖHLING, S.

Effect of pentamethylenetetrazole on thyroid incorporation of radioiodine in rats. Cesk. fysiол. 8 no.2:135-136 Mar 59.

1. Ustav pro peci o matku a dite, Vykimny ustav endokrinologicky, Praha. Predneseno na Sumposiu o ucincich ionisacniho zarení dne 16.10. 1958 v Praze.

(PENTYLENETETRAZOLE, eff.

on thyroid radioiodine incorporation (Cs))

(THYROID GLAND, eff. of drugs on,

pentylenetetrazole on radioiodine incorporation (Cs))

(IODINE, radioactive,

thyroid incorporation, eff. of pentylenetetrazole (Cs))

PRESL, J.; KLETECKA, P.

Hypothermia following the administration of pentamethylenetetrazole and cerebrocortical oxygen requirement. Cesk. fysiол. 8 no.3:238-239 Apr 59.

1. Ustav pro o matku a dite, Praha. Predneseno na III. fysiologickych dnech v Brne dne 14. 1. 1959.

(PENTYLENETETRAZOLE, eff.

body temperature decrease, eff. on cerebrocortical oxygen requirement (Cs))

(BODY TEMPERATURE, eff. of drugs on,

pentylenetetrazole, cerebrocortical oxygen requirement requirement reaction (Cs))

(CEREBRAL CORTEX, metab.

oxygen requirement in pentylenetetrazole-induced hypothermia (Cs))

PRESL, Jiri; KLEPICKA, Pravdomil

Analeptics in hypoxic bradycardia. Cesk. gyn. 24[38] no.3:190-191
Mar 59.

1. Ustav pro peci o matku a dite v Praze, reditel prof. dr. J. Trapl.
(BRADYCARDIA, exper,
hypoxic fetal in rabbits, eff. of maternal admin. of
analeptics in pregn. (Gz))
(ASPHYXIA NEONATORUM, exper,
hypoxic fetal bradycardia in rabbits, eff. of maternal
admin. of analeptics in pregn (Gz))
(ANALEPTICS, effects,
on exper. hypoxic fetal bradycardia in rabbits, maternal
admin. in pregn. (Gz))

DYKOVA, H.; PRESL, J., (kand. lek. ved.; POSPISIL, J.; KLETICKA, P., Technická
spoluprace: Hájna, A., Patinova, B.

Tissue reactions to certain types of suture material in rats. Cesk.
gyn. 24[38] no.9:716-722 Nov. 1959.

1. Ústav pro péči o matku a dítě v Praze-Podolí, ředitel prof. dr.
J. Trapl.

(UTERUS, surg.) (SUTURES)

PRESL, Jiri; KLETECKA, Pravdomil

Phenobarbital and the effect of estrogens on the adrenal cortex
in rats. Cas. lek. cesk. 99 no.27:838-842 1 J1 '60.

1. Ustav pro peci o matku a dite v Prase, reditel doc. MUDr. M.
Vojta.

(ADRENAL CORTIX pharmacol.)

(PHENOBARBITAL pharmacol.)

(DIENTHYLSTILBESTROL pharmacol.)

PRESL, Jiri; KLETHKA, Pravdomil '

Pentamethylenetetrazole and oxygen requirement in the cerebral cortex. Cas.lek.cesk.99 no.39:1235-1238 23 8 ' 60.

1. Ustav pro peci o mathu a dite v Prase,reditel doc.dr. M.Vojta.
(PENTYLENETETRAZOLE pharmacol)
(CEREBRAL CORTEX metab)

PRESL, Jiri, CSc.; KLETECKA, Pravidomil

On the problem of the effect of bromine on the estrus cycle in rats.
Cesk. gyn. 27[41] no.4:245-249 My '62.

1. Ustav pro peci o matku a dite v Prase, red. doc. MUDr. H.Vojta,
saslousily lekar CSSR.
(ESTRUS pharmacol) (BROMINE pharmacol)

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000723020015-1

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000723020015-1"

PLATE 1 **THE** **COAST GUARDIAN** **1891/4/5/6**

[illegible]

**Dr. M. J. A.M. Smits, Corresponding Member, Academy of Sciences
Publishing House: G.J. Thurnhout's Zeeb. Bldg. 4-6, Rotterdam.**

Purpose: Data collection of articles is extended for technical personnel interested in recent studies and developments of various elevating practices and equipment.

[illegible]

Abstracts by **J. L. Murray**, *Psychosocial Principles of Group-Therapy*, *Journal of Consulting and Clinical Psychology*, 1966, 34, 1, 1-2.

THE U. S. DEPARTMENT OF JUSTICE

Smith, L. L., A. L. Kennedy and L. L. Smith, Season Treatment of Summer
Stocks

Samuelson, H. F., and L. L. Friesner, The Effect of Season Treatment in Reducing
the Incidence of Summer Milk Spoil

Engelhardt, A. J., and V. B. Engelhardt. The Effect of Sodium Treatment to Reduce the Volatility of Lignomer Comonomers. Prod.

Specimens: 1. L. *ambigua*, Rio Tinto, P. de Sutil, vol.
T.A. September. Box of screws for improving the quality of alloyed steels
Submitted by: J. B. Miller, same direction as mentioned Pre-
vious of steel request.

October 12, 1914. **Presented at 10:1. Lecture.** The history of human freedom of speech leading to the failure of 1848. (The work was

[illegible]

2. Stangor, R. Z., J. B. Langhinrichs, J. B. Clark, L. J. Baker, B. A. Chabert, J. C. Smalley and J. L. Albritton. Seasonal trends of native freshwater species and of *Salix* forest (a.s.). Stangor, L. J., Albritton, P. J., Peterson, V. J., Stangor, V. S., Fendelman and P. J. Warner participated in the work.

Working Paper 12-10, Miller and E. A. Smith. Investigation of Factors Affecting the Use of the Police for Carriage

Sept. 5. - Collins People's Hospital, Institute of Iron Machinery in Chicago, Illinois and Printing of Aligned Carbon Steel

Barbery, J.W., M.A. Barbery and A.H. Barbery. Postparturition of milks
from dairy in Texas

~~YVES, J. J., and L. A. Finkler. Mortality of Bannockia imicola
in the larval treatment of trout.~~

Strayer, John, Ed. Lerner, and J. H. Smith. Investigation of the
existence of social desirability bias in terms of a bias adjustment

Yoshioka, Toshiyuki. The Effect of Aqueous and Nitrogen on the Activity of Salivary Lactate Dehydrogenase. Journal of Dental Research 44: 148-151, 1965.

Significance, Interpretation of the Librarian and Feasibility of Carries In Person

18.1151

4016

32409
Z/034/62/000/001/003/011
E073/E535

AUTHORS: Koutský, Jaroslav, Docent Engineer, Candidate of Science, Kletečka, Zdeněk, Engineer, Valýška, Stanislav

TITLE: Influence of melting in vacuum on the properties of ferritic heat-resistant steels. I. Cr containing heat resistant steels

PERIODICAL: Hutnické listy, no. 1, 1962, 31-37

TEXT: The authors have investigated the influence of melting in vacuum on the properties of heat-resistant steels at present being produced or developed in Czechoslovakia. The first studies were made on inoculated 12% Cr steel (type Cr12w2V). The study was made using a 300 kg ingot from a 5-ton heat produced in an electric arc furnace and having the following composition: 0.18% C, 0.74% Mn, 0.42% Si, 0.010% P, 0.018% S, 0.60% Ni, 11.9% Cr, 2.05% W, 0.16% V, 0.15% Cu, 0.04% N. From this ingot 22 mm diameter rods and 14 x 14 mm prisms were forged and used as test specimens. Furthermore, 100 mm diameter electrodes were forged and machined down to 80 mm diameter and used for subsequent re-melting in vacuum in a furnace, produced by Messrs. Heraeus (West Germany), of 30 kg capacity. Three electrodes were
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Influence of melting in vacuum ... 2/034/62/000/001/003/011
E073/E835

re-melted at a vacuum of 10^{-3} mm Hg and another three electrodes were re-melted at a pressure of about 10^{-1} mm Hg. From each series of the thus re-melted ingots one was investigated in the as-cast state, and another after forging. A part of the material from the original 300 kg ingot was re-melted in a 40 kg induction furnace in a normal atmosphere and deoxidized with CaSi. Again a part of the material was subjected to tests in the as-cast state, another part after forging. The results, which are described in some detail, showed that except for a certain increase in creep resistance, which still has to be verified by means of long-run tests, the re-melting in vacuum did not have any pronounced influence on the mechanical properties. The hydrogen content which was very low in this steel, remained virtually unchanged after re-melting in vacuum. The content of other elements did not drop appreciably by the re-melting in vacuum except for the nitrogen content, which was 0.042% in the induction melted steel, 0.021% in the steel produced at 10^{-1} mm Hg and 0.018% in the steel produced at 10^{-3} mm Hg. The authors emphasize that the described results are the first of a series and were obtained for specimens from a single basic heat.

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Influence of melting in vacuum ...

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Z/034/62/000/001/003/011
E073/E555

Therefore, the validity of the conclusions for other types of 12% Cr steels has still to be verified. There are 22 figures, 5 tables and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The English-language reference reads as follows: Ref.5: K.J.Irvine, D.J.Crowe, F.B.Pickering, J.Iron Steel Inst. 195. 1960, p.386.

ASSOCIATION: Závody V. I. Lenina, Plzeň
(V. I. Lenin Works, Pilsen)

SUBMITTED: September 8, 1961

Card 3/3

EMINGER, Ed. ins., Dr.Sc.; KLETECKA, Ed., ins.

Vacuum arc furnace melting in a unit of laboratory size. Part 1:
Experience with the furnace operation. But listy 17 no.9:617-626 8
'62.

1. Zavody V.I. Lenina, n.p., Plzen.

EMINGER, Zdenek, DrSc.; KLETECKA, Zdenek, ins.

Melting loss of some elements during the vacuum arc melting of selected steels and alloys. Hut listy 19 no.8:539-544 Ag '64.

1. Zavody V.I. Lenina National Enterprise, Plzen.

L 22578-66

ACC NR: A16012975

SOURCE CODE: UR/0094/65/000/009/0043/0043

AUTHOR: Bol'sham, Ya. M.; Vinogradov, A. A.; Volebrinskiy, S. D.; Geyler, L. B.; Grudinskiy, P. G.; Dolginov, A. I.; Zil'berman, R. I.; Kazak, N. A.; Kletenik, B. I.; Knyazevskiy, D. A.; Livshits, D. S.; Mol'nikov, N. A.; Minin, G. P.; Mukoseyev, Yu. I.; Nayfel'd, M. R.; Petrov, I. I.; Ravin, V. I.; Samover, M. L.; Serbinovskiy, G. V.; Syromyatnikov, I. A.

ORG: none

TITLE: Lev Veniaminovich Litvak (on the occasion of his 60th birthday)

SOURCE: Promyshlennaya energetika, no. 9, 1965, 43

TOPIC TAGS: electric engineering personnel, electric power engineering

ABSTRACT: The noted specialist of industrial power production, Candidate of Technical Sciences, Docent of the Correspondence Power Institute Lev Veniaminovich LITVAK began his engineering activity at the Moscow Association of State Electric Stations in 1929. Later he became one of the coauthors of all the "Directives for the increase of the power factor" issued in 1954, 1955, and 1961. He published 70 scientific papers. For his successful activities in defense industries during World War II he was decorated by "Znak Pocheta." After the war he concentrated on scientific-pedagogical work and in recent years worked actively in

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L 22578-66

ACC NR: AP6012975

the Teaching-Methodological Commission of the Ministry of Higher and Intermediate Special Education USSR, for the specialty "Electrical supply to industrial enterprises and cities." Orig. art. has: 1 figure. [JPRS]

SUB CODE: 05, 10, 09 / SUBM DATE: none

Cord 2/2

BK

BOL'SHAM, Ya.M.; VINOGRADOV, A.A.; VOLOBRINSKIY, S.D.; GEYLER, L.B.; GRUDINSKIY, P.G.; DOLOINOV, A.I.; ZIL'BERMAN, R.I.; KAZAK, N.A.; ~~KLETENIK, B.I.~~; KNYAZEVSKIY, B.A.; LIVSHITS, D.S.; MEL'NIKOV, N.A.; MININ, G.P.; MUKOSEYEV, Yu.L.; MAYFEL'D, M.R.; PETROV, I.I.; RAVIN, V.I.; SAMOVER, M.L.; SERBINOVSKIY, G.V.; SYROMYATNIKOV, I.A.

Lev Veniaminovich, 1905; on his 60th birthday. Prom. energ. 20
no.9:43 8 '65. (MIRA 18:9)

KLETHNIK, D. V.

21327 KLETHNIK, D. B. Nekotorye Zamechaniya ob izlozhenii teorii dvoynnykh integratov vo vtuzakh. Uspekhi matem. Nakhk, 1949, Vyp. 3, S. 151-75.

SO: Letopis' Zhurnal'nykh Statey, No. 26, Moskva, 1949.

KLETZNIK, D. V.

Sbornik zadach po analiticheskoi geometrii [Collection of problems in analytical geometry/. Moskva, Gostekhizdat, 1950. 220 p.

S0: Monthly List of Russian Accessions. Vol. 6 No. 8 November 1953

KLETENIK, D.V. [author]; SADOVSKIY, L.Ye. [reviewer]; EFIMOV, N.V.[redaktor].

"Collection of problems in analytical geometry." D.V.Kletenik. Reviewed
by L.E.Sadovskii. Usp.mat.nauk. 8 no.4:208-210 J1-Ag '53. (MLRA 6:8)
(Geometry, Analytic) (Kletenik, D.V.)

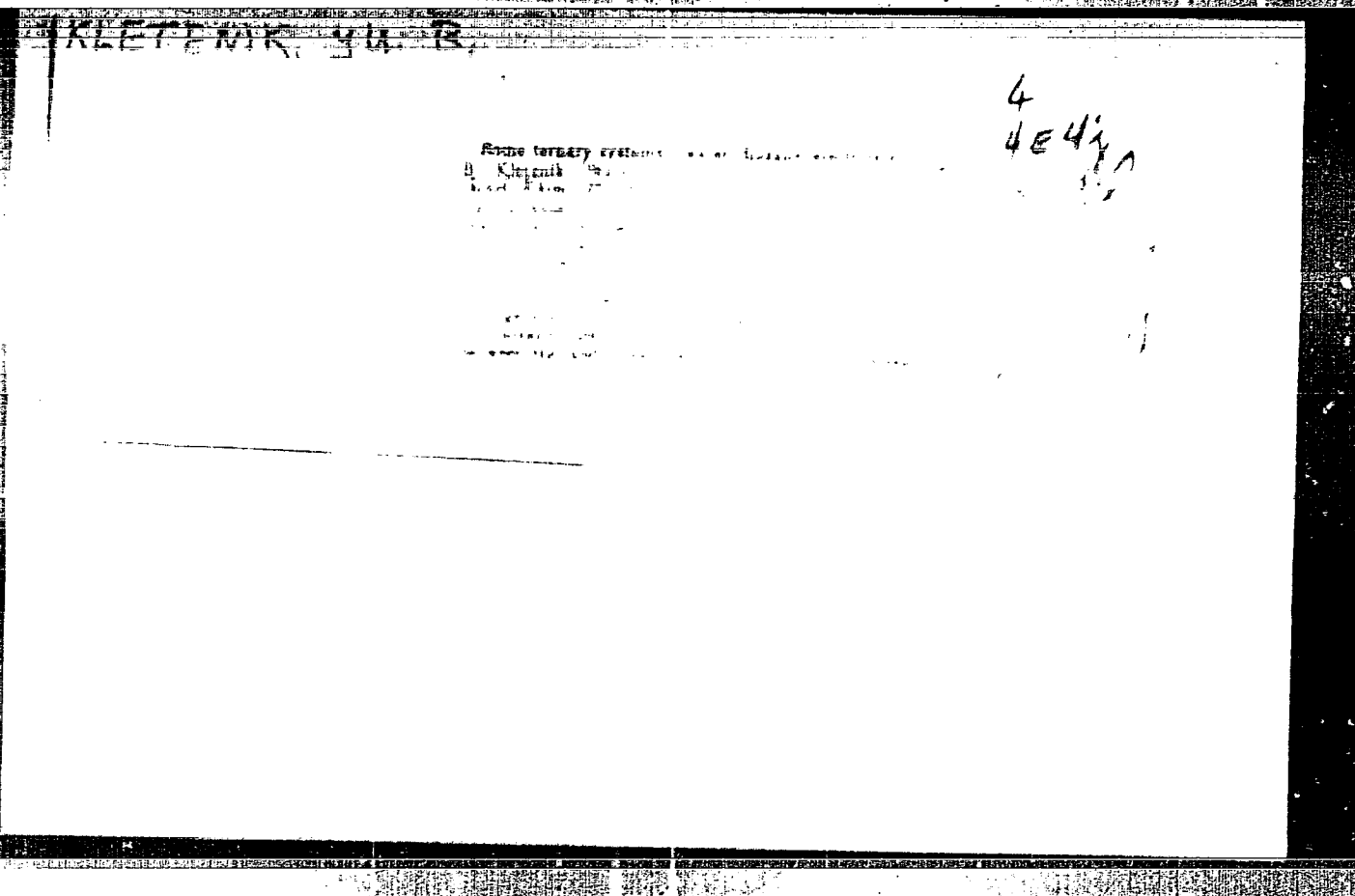
KLETSNIK, D.V.

[Collection of problems in analytical geometry] Sbornik zadach
po analiticheskoi geometrii. Izd. 2-e. Moskva, Gostekhizdat,
1954. 240 p. (MLBA 8:2D)

KLETSNIK, David Viktorovich; YEFIMOV, M.V., professor, redaktor; SOLODKOV, V.A.;
redaktor; ROMASHINA, N.A., tekhnicheskii redaktor

[Collection of problems in analytical geometry] Sbornik zadach po
analiticheskoi geometrii. Pod red. M.V.Yefimova. Izd. 4-oe, stereo-
tipnoe. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 240 p.
(MLBA 10:2)

(Geometry, Analytic—Problems, exercises, etc.)



Distr: 4541

Dipole moments of $ZrCl_4$, $ZrBr_4$, and $TiCl_4$ in dioxane. O. A. Gaspov and L. A. B. Kuznetsov, *Zhur. Neorg. Khim.* 24:4 (1937).—Concn. in dioxane, g/100 cc. count, and d_4^{20} , resp., for $ZrCl_4$ are: 0.01470 M, 2.442, 1.0420; 0.00994 M, 2.404, 1.0406; 0.00630 M, 2.358, 1.0390; 0.00440 M, 2.190, 1.0377; 0.00164 M, 2.281, 1.0381; for $TiCl_4$, 0.0040 M, 2.229, 1.0363; 0.00160 M, 2.232, 1.0358; 0.00141 M, 2.271, 1.0353; 0.00120 M, 2.294, 1.0351; 0.00103 M, 2.220, 1.0348; 0.00090 M, 2.218, 1.0347; for $ZrBr_4$, 0.00274 M, 2.290, 1.0434; 0.00229 M, 2.178, 1.0420; 0.00183 M, 2.260, 1.0402; 0.00137 M, 2.246, 1.0384; 0.00106 M, 2.235, 1.0377. The deformational polarization (in cc.) molar polarization at infinite diln. (in cc.), and dipole moment (D) are, resp.: for $ZrCl_4$, 44.33, 775, 8.94; $TiCl_4$, 40.99, 791, 8.48; and $ZrBr_4$, 32.03, 802, 4.64. The indication from these data that the halides form complexes with the solvent was confirmed by the synthesis of the following new compounds: $ZrCl_4 \cdot 5C_2H_5O$, white cryst. hydrolyzes in air, m. about 193° ; $TiCl_4 \cdot 4C_2H_5O$, yellow cryst., m. 182° ; and $ZrBr_4 \cdot 8C_2H_5O$, m. 190° . The stability of these types of complexes formed by tetrahalides from the elements of Group IV increases with increase in the covalent radius of the central atom. 16 references. A. P. Koshir.

Kletenik, Yu. B.

AUTHORS: Osipov, O. A., and Kletenik, Yu. B.

77-11-3/56

TITLE: Dipole Moments of the Complex Compounds of Zirconium Chloride with Compound Esters of Monobasic Acids XII (Dipol'nyye momenty kompleksnykh soyedineniy tetrakhlorida tsirkoniya s slozhnyimi efirami odnoosnovnykh kislot XII).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 11, pp. 2921-2927 (USSR).

ABSTRACT: The interaction of the tetrachlorides of tin and titanium with various organic compounds containing nitrogen and oxygen leads to the formation of complex molecules with high dipole-moments 1-3. Such a high polarity of the complex compounds with SnCl_4 and TiCl_4 cannot alone be explained by a polarization-interaction and indicates the occurrence of a strongly polarized donor-acceptor-binding. In this paper the authors give the results which they obtained in the determination of the dipole-moments of the complex compounds of zirconium chloride, ethyl- and isopropyl-formate, ethyl-, isopropyl-, isobutyl- and benzyl-acetate with the ethyl ester of butyric acid. Thus it is shown that the interaction between zirconium chloride and the compound esters of monobasic acids leads to the formation of complex compounds of high polarity. The dipole moments of the resulting compounds were

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Dipole Moments of the Complex Compounds of Zirconium Chloride with 79-11-3/56
Compound Esters of Monobasic Acids XII.

measured (in benzene). The change of the alcohol radical in the ester has no influence upon the height of the dipole-moment in the complex, whereas the increase in the partial weight of the acid residue sharply reduces it. From this follows that the stability of the complex of the type $ZrCl_4 \cdot nRCOOR_1$ in the solution is chiefly dependent on the quantity of the acid residue. According to the measurements the complex compounds of $ZrCl_4$ with two ester-molecules possess a cis-structure.

There are 8 tables, and 19 references, 12 of which are Slavic.

SUBMITTED: November 29, 1956.

AVAILABLE: Library of Congress.

1. Complex compounds-Dipole moments
2. Zirconium chloride-Dipole moments
3. Organic compounds-Dipole moments

Card 2/2

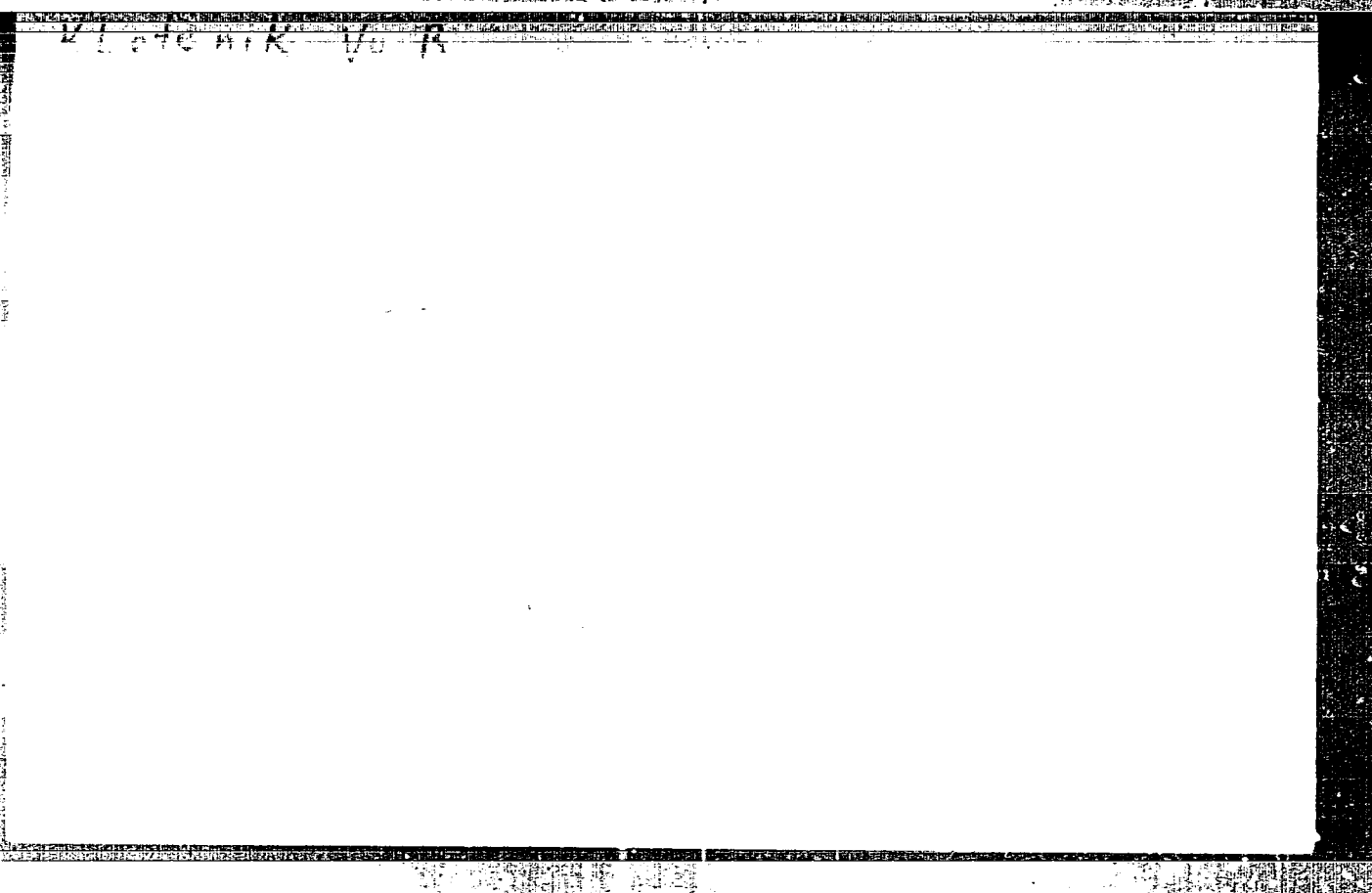
KLETSNIK, Yu.B.

Effect of bivalent manganese on the electrodeposition of zinc.
Zhur.prikl.khim. 30 no.8:1250-1252 Ag '57. (MIRA 11:1)

1.Rostovskiy gosuniversitet imeni V.M. Molotova.
(Manganese) (Zinc plating)

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000723020015-1



APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000723020015-1"

KLATENIK, Yu.B., Cand Chem Sci --- (diss) "Physico-chemical study of certain molecular compounds of halides of zirconium and titanium," Novocherkassk, 1959. 18 pp (Novocherkassk Order of Labor Red Banner Polytech Inst im S. Ordzhonikidze). 150 copies List of author's works at end of text (10 titles) (KL,40-59, 102)

10

5.2620
5 (2), 5 (3)

67033

AUTHORS:

Kletenik, Yu. B., Osipov, O. A.

SOV/153-2-5-7/31

TITLE:

Physico-chemical Examination of Several Complex Compounds of Zirconium Halides With Esters of the Monobasic Carboxylic Acids

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 5, pp 679-684 (USSR)

ABSTRACT:

The authors continue their previous studies (Refs 5, 6) on the subject mentioned in the title. In the present paper, additional laws governing the change in polarity, stability and the formation temperature of the zirconium-chloride-bromide-iodide series are studied. The methods are described in references 5-8. Table 1 shows the measurement results of the dielectric constant (ϵ) and of the density (d) of benzene solutions of the complex $ZrCl_4 \cdot CH_3COOC_2H_5$ and the calculated values of its polarization (P). The polarization of the complexes $ZrHal_4 \cdot CH_3COOC_2H_5$ shows that these complexes do not dissociate in benzene into their components in a marked manner. The complexes $ZrHal_4 \cdot 2CH_3COOC_2H_5$ dissociate according to the scheme $ZrHal_4 \cdot 2Est \rightleftharpoons ZrHal_4 \cdot Est + Est$. The tendency for dissociation increases in the order

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Physico-chemical Examination of Several Complex
Compounds of Zirconium Halides With Esters of the Monobasic Carboxylic Acids

30V/153-2-5-7/31

chloride - bromide - iodide. Tables 2 and 3 list the measurement results of the dielectric permeability and the density of the benzene solution of several complexes of zirconium - bromide and zirconium - iodide as well as the polarization values computed for these complexes. A marked change in the polar properties of the complexes investigated cannot be determined in the transition from zirconium-chloride to -bromide and -iodide. The polarity of the iodide complexes is lower than that of the chloride complexes of zirconium. In the transition from zirconium-chloride to zirconium-bromide and zirconium-iodide, the influence of the alcohol radical of the ester rises which increases the polarity of the complexes. The complexes $ZrHal_4 \cdot 2CH_3COOC_2H_5$ have a cis configuration. The addition temperature of the 2nd ethyl acetate molecule to the zirconium halide is much lower than the addition temperature of the 1st molecule. The transition from zirconium-chloride to zirconium-bromide has little effect on the reaction temperature with ethyl acetate. There are 3 tables and 8 references, 7 of which are Soviet.

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Physico-chemical Examination of Several Complex
Compounds of Zirconium Halides With Esters of the Monobasic Carboxylic Acids

SOV/153-2-5-7/31

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet; Kafedra
fizicheskoy i kolloidnoy khimii (Rostov-na-Donu State
University, Chair of Physical and Colloidal Chemistry)

SUBMITTED: May 29, 1958

Card 3/3

5(2)

AUTHORS:

Osipov, O. A., Kletenik, Yu. B.

SOV/78-4-7-6/44

TITLE:

The Dipole Moments of Halides of Zirconium, Titanium, Tin, and Aluminum in Dioxane (Dipol'nyye momenty galogenidov tsirkoniya, titana, olova i alyuminiya v dioksane)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7, pp 1494-1497 (USSR)

ABSTRACT:

In an earlier paper (Ref 1) the authors proved that in the elements of the fourth group a direct dependence exists on the ratio of the covalent radii of the complex-forming atom and of chlorine for the polarity of the tetrachlorides in dioxane. With a growing value of this ratio polarity increases. In the present paper the dipole moments of $AlBr_3$, AlJ_3 , $SnCl_4$, SnJ_4 , ZrJ_4 and $TiBr_4$ in dioxane are measured. The values for the dielectric permeability and for the density of the aforementioned compounds (at 20°) are given in tables 1 and 2. Table 3 contains the data concerning the dipole moments in dioxane of the halides of Hg, Al, Ti, Zr, Sn and As as measured by the authors or available in publications. The following was found: For

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SOV/78-4-7-6/44

The Dipole Moments of Halides of Zirconium, Titanium, Tin, and Aluminum in Dioxane

AlBr_3 - 3.30D, AlJ_3 - 4.98D, SnCl_4 - 5.10D, SnBr_4 - 4.13D, SnJ_4 - 1.55D, ZrJ_4 - 5.36D, TiBr_4 - 5.05D. The polarity of aluminum halides increases in dioxane in the series Cl - Br - J; that of tin halides decreases in the same direction. The dipole moment of ZrCl_4 is higher than that of bromide and iodide. TiBr_4 has a higher dipole moment than TiCl_4 . On the basis of published data and own measurements the following rule is assumed: The polarity of the halides of elements of the 2. and 3. group of the periodic system increases in the series Cl - Br - J, that of the halides of the elements of the main subgroups of the 4. and 5. group decreases. The titanium subgroup occupies an intermediate position. There are 3 tables and 16 references, 11 of which are Soviet.

SUBMITTED: April 26, 1958

Card 2/2

AUTHORS: Kletanik, Yu. B., Osipov, O. A., S07/79-29-1-4/74
Kravtsov, Ye. Ye.

TITLE: Coordination Compounds of Zirconium Tetrachloride With Esters of Monobasic Acids. XV (Koordinatsionnyye soyedineniya tetrakhlorida tsirkoniya so slozhnymi efirami odnoosnovnykh kislot. XV)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 11-16 (USSR)

ABSTRACT: In the previous paper (Ref 1) dealing with the complex compounds of zirconium tetrachloride with esters of monobasic acids it was shown that the formation of the complexes of the type $ZrCl_4 \cdot 2RCOOR_1$ is accompanied by an intensification of the polar properties. In such complex compounds zirconium has the coordination number 6 which is characteristic of this element. According to Sidgwick (Ref 2) it shows coordination numbers of the order 5, 6, 7 and 8 in its complex compounds. It is the aim of the present paper to investigate the presence of complexes where zirconium has the minimum coordination number five. Therefore, compounds of the composition $ZrCl_4 \cdot RCOOR_1$ were investigated in benzene solution as prepara-

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Coordination Compounds of Zirconium Tetrachloride
With Esters of Monobasic Acids. XV

SOV/79-29-1-A/74

tive method, and with respect to the polar and cryoscopic properties. The determination method of the dipole moments, molecular weights and the purification of the used products had already been described in an earlier paper (Refs 1, 3, 4). The following complexes were separated and analyzed: $\text{ZrCl}_4 \cdot \text{HCOOC}_2\text{H}_5$, $\text{ZrCl}_4 \cdot \text{HCOOC}_3\text{H}_7$, $\text{ZrCl}_4 \cdot \text{CH}_3\text{COOC}_2\text{H}_5$, $\text{ZrCl}_4 \cdot \text{CH}_3\text{COOC}_3\text{H}_7$ and $\text{ZrCl}_4 \cdot \text{C}_3\text{H}_7\text{COOC}_2\text{H}_5$. Their dipole moments were determined in benzene. It was found that with increasing partial weight of the acid radical in ether the dipole moment of the complex decreases. The molecular weights of the above-mentioned complexes were determined according to the cryoscopic method. The cause for the tendency of the complexes towards association was explained. The triple complexes $\text{ZrCl}_4 \cdot \text{HCOOC}_2\text{H}_5 \cdot \text{C}_6\text{H}_6$ and $\text{ZrCl}_4 \cdot \text{HCOOC}_2\text{H}_5 \cdot \text{C}_6\text{H}_5\text{CH}_3$ were also separated and analyzed. There are 12 tables and 8 references, 4 of which are Soviet.

ASSOCIATION: Rostovskiy gosudarstvennyy universitet (Rostov State University)
Card 2/3

5 (4)

AUTHORS:

Osipov, O. A., Kletenik, Yu. B.

SOV/79-29-4-71/77

TITLE:

Physico-chemical Investigation of the Reaction of Zirconium Chloride With Esters of the Monobasic Acids. III. (Fiziko-khimicheskoye issledovaniye vzaimodeystviya khlorida tsirkoniya so slozhnymi efirami odnoosnovnykh kislot.III)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1375 - 1382 (USSR)

ABSTRACT:

Publications do not point out the existence of compounds which contain more than two ester molecules for one molecule MeCl_4 , e. g. $\text{MeCl}_4 \cdot 3 \text{ E}$ (ester molecules) (Refs 1-8). It was the authors' task to investigate the reaction of the complexes of the composition $\text{ZrCl}_4 \cdot 2 \text{ E}$ with a third ester molecule in benzene. For this investigation more precise data on the molar state of the complexes $\text{ZrCl}_4 \cdot \text{E}$ and $\text{ZrCl}_4 \cdot 2 \text{ E}$ in benzene were necessary. The complicated character of the dependence of the polarization of the complexes $\text{ZrCl}_4 \cdot 2 \text{ E}$ on the concentration which was detected (Ref 9) and interpreted earlier by the

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Physico-chemical Investigation of the Reaction of Zirconium Chloride With Esters of the Monobasic Acids. III. SOV/79-29-4-71/77

authors was in the present paper based upon cryoscopic investigations of some of these components. The tables 1-3 and figure 1 give the cryoscopic data of the benzene solutions of the complexes $ZrCl_4 \cdot 2HCOOC_2H_5$, $ZrCl_4 \cdot 2CH_3COOC_2H_5$ and $ZrCl_4 \cdot 2C_3H_7COOC_2H_5$. The comparison of the results confirm the aforesaid assumption concerning the rôle of the concentration. It was found that the complexes of this composition dissociate considerably into the components in benzene solution. The series formate-acetate-butyrates shows a clear tendency to dissociation. A scheme was suggested for this dissociation. By means of the cryoscopic method and by the determination of the dielectric constant was found that the zirconium chloride reacts in benzene with two ester molecules only. The dielectric constants of the complex computed from the data of polarization and to the cryoscopic method were equal. There are 1 figure, 7 tables, and 18 references, 10 of which are Soviet.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-na-Donu State University)

SUBMITTED: January 23, 1958
Card 2/2

5(3) 5(4)

AUTHORS:

Kletenik, Yu. B., Osipov, O. A.

SCV/79-29-5-4/75

TITLE:

Physical-Chemical Investigation of the Interaction of Zirconium Halides With Esters of Monobasic Acids (Fiziko-khimicheskoye issledovaniye vzaimodeystviya galogenidov tsirkoniya so slozhnymi efirami odnoosnovnykh kislot). 4. Complexes of Zirconium Bromide (4. Kompleksy bromida tsirkoniya)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 5, pp 1423 - 1429 (USSR)

ABSTRACT:

In the present paper the complexes formed from zirconium bromide and esters of monobasic acids were investigated by means of the method of the dielectric constant and cryoscopy in benzene as well as by preparation in a pure condition. The investigation methods and the purification of the reagents used were described previously (Refs 3 and 5). In tables 1-3 the dielectric constants, densities and molecular polarizations of the complexes $ZrBr_4 \cdot HCOOC_2H_5$, $ZrBr_4 \cdot CH_3COOC_2H_5$ and $ZrBr_4 \cdot C_3H_7COOC_2H_5$ in benzene are summarized. The dipole moments of these complexes

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Physical-Chemical Investigation of the Interaction of SOV/79-29-5-4/75
Zirconium Halides With Esters of Monobasic Acids. 4. Complexes of Zirconium
Bromide

(μ), the dipole moments of the esters contained in them (μ_1) and the difference ($\mu - \mu_1$) are given in table 4. The figure shows the cryoscopic data for the complexes $ZrBr_4 \cdot HCOOC_2H_5$, $ZrBr_4 \cdot CH_3COOC_2H_5$ as well as for $ZrBr_4 \cdot 2HCOOC_2H_5$ and $ZrBr_4 \cdot 2CH_3COOC_2H_5$ in benzene. The tables 5-9 contain data on the dielectric polarization of complexes $ZrBr_4 \cdot 2HCOOC_2H_5$, $ZrBr_4 \cdot 2CH_3COOC_2H_5$, $ZrBr_4 \cdot 2CH_3COOC_3H_7$, $ZrBr_4 \cdot 2CH_3COOC_4H_9$, $ZrBr_4 \cdot 2C_3H_7COOC_2H_5$. Table 10 presents data on the molecular polarization of the complex $ZrBr_4 \cdot 2CH_3COOC_2H_5$ in benzene solutions with different excess of ethyl acetate. The polarization was found to decrease in complexes of a $ZrBr_4 \cdot 2E$ -composition (with the exception of ethyl formate) in the series zirconium chloride-bromide and the dissociation of the linkage with the second molecule of the ester was found to increase. The tendency of the $ZrBr_4 \cdot E$ -complexes towards dimerization is less pronounced than in similar complexes of the zirconium chloride.

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Physical-Chemical Investigation of the Interaction of Zirconium Halides With Esters of Monobasic Acids. 4. Complexes of Zirconium Bromide SOV/79-29-5-4/75

On the strength of the data concerning polarization and cryoscopy of the $\text{ZrBr}_4 \cdot 2\text{CH}_3\text{COOC}_2\text{H}_5$ -complex its dissociation constant in benzene was calculated. It proved to be about $2 \cdot 10^{-2}$. The polarity was found to increase in ZrBr_4 -complexes with ethyl acetate, propyl acetate and isobutyl acetate if the alcohol radical increases. The complexes $\text{ZrBr}_4 \cdot \text{HCOOC}_2\text{H}_5$, $\text{ZrBr}_4 \cdot \text{CH}_3\text{COOC}_2\text{H}_5$, $\text{ZrBr}_4 \cdot \text{C}_3\text{H}_7\text{COOC}_2\text{H}_5$ were separated and their melting points determined (108° , 164° and 157°). Also the mixed complex $\text{ZrBr}_4 \cdot \text{HCOOC}_2\text{H}_5 \cdot \text{C}_6\text{H}_6$ was prepared in pure condition. It was found that the benzene in it is bound to a considerably lower extent than in the similar $\text{ZrCl}_4 \cdot \text{HCOOC}_2\text{H}_5 \cdot \text{C}_6\text{H}_6$ -complex (Ref 6). There are 1 figure, 10 tables, and 12 references, 9 of which are Soviet.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute)

SUBMITTED: March 10, 1958
Card 3/3

5 (2)

AUTHORS:

Osipov, O. A., Kletenik, Yu. B.

SOV/79-29-7-3/83

TITLE:

Physicochemical Investigation of the Reaction of Zirconium Halides With Esters of Monobasic Acids (Fiziko-khimicheskoye issledovaniye vsaimodeystviya galogenidov tsirkoniya so slozhnymi efirami odnoosnovnykh kislot). V. Complexes of Zirconium Iodide (V. Kompleksy yodida tsirkoniya)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2119 - 2124 (USSR)

ABSTRACT:

In the present paper the results of the investigation of the polar properties of zirconium iodide complexes with esters of monobasic carboxylic acids in benzene are mentioned. The initial benzene solutions of the complexes were produced by dissolving zirconium iodide in benzene which contained an equivalent amount of ester. The dipole moments of the complexes $ZrJ_4 \cdot CH_3COOC_2H_5$, $ZrJ_4 \cdot 2HCOOC_2H_5$, $ZrJ_4 \cdot 2CH_3COOC_2H_5$, $ZrJ_4 \cdot 2CH_3COOC_3H_7$, $ZrJ_4 \cdot 2 \text{ iso-}CH_3COOC_4H_9$ and $ZrJ_4 \cdot 2C_3H_7COOC_2H_5$ in benzene were determined. It was found that the increase of the acid radical of the esters reduces and the increase of the alcohol radical increases the polarity of the complexes investi-

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Physicochemical Investigation of the Reaction of
Zirconium Halides With Esters of Monobasic Acids.
V. Complexes of Zirconium Iodide

SOV/79-29-7-3/83

gated. The dissociation constant of the complex $ZrJ_4 \cdot 2CH_3COOC_2H_5$ was approximately determined by means of the dielectric constant. In the complexes of zirconium tetrahalides with the esters of monobasic acids in the series of zirconium chloride, bromide, and iodide an increasing tendency of the complexes $ZrHal_4 \cdot 2E$ (E -ester) towards dissociation (separation of the second ester molecule), on the other hand, however, a decreasing tendency of the complexes $ZrHal_4 \cdot E$ towards association and an increasing influence of the alcohol radical were observed. The tendency of the complexes $ZrHal_4 \cdot 2E$ towards dissociation increases with the increasing acid radical. A comparison of the polarity data of the complexes $ZrHal_4 \cdot E$ and $ZrHal_4 \cdot 2E$ (7 tables) leads to the conclusion that all $ZrHal_4 \cdot 2E$ complexes investigated have cis-structure. There are 1 figure, 7 tables, and 8 Soviet references.

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Physicochemical Investigation of the Reaction of
Zirconium Halides With Esters of Monobasic Acids.
V. Complexes of Zirconium Iodide

80V/79-29-7-3/83

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk
Polytechnic Institute)

SUBMITTED: June 10, 1958

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8/078/60/005/010/023/030/XX
B017/B067

AUTHORS: Osipov, O. A. and Kletenik, Yu. B.

TITLE: The Heat of the Reaction of Zirconium Halides With Esters

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 10, pp. 2220-2222

TEXT: The heat which is generated in the reaction of zirconium bromide and zirconium chloride with ethyl formate, ethyl acetate, and ethyl butyrate, as well as the heat of solution of zirconium iodide in ethyl acetate were determined. The ratio of zirconium bromide and zirconium chloride to the esters was 1 : 1, and 1 : 2, respectively. The heats of solution of zirconium halides and their complex compounds in these esters which were also determined are given in Table 1. Table 2 shows the heat of formation of the complexes. The complexes could be obtained only as solutions, not in the solid form. The heat of formation of complexes with the composition 1 : 1 was, in all cases investigated, higher than that of complexes with the composition 1 : 2. This result confirms the

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The Heat of the Reaction of Zirconium
Halides With Esters

S/078/60/005/010/023/030/XX
B017/B067

dissociation scheme suggested earlier by the authors (Refs. 4,5). In contrast to molecular compounds of tetrahalides of tin in the order chloride - bromide - iodide with these esters, no continuous decrease in the heats of formation in the above order was observed in the complexes of zirconium halides. The heat of formation of complexes of zirconium bromide with these esters is somewhat higher than that of complexes of zirconium chloride. The heat of solution of zirconium iodide in ethyl acetate is 4% lower than the heat of solution of zirconium chloride in the same ester. There are 2 tables and 9 references: 7 Soviet and 2 US. ✓

SUBMITTED: July 3, 1959

Card 2/2

KLETENIK, Yu.B.; OSIPOV, O.A.

Reaction of titanium tetrahalides with esters of acetic acid.
Zhur. ob. khim. 31 no.3:710-716 Mr '61. (MIRA 14:3)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR.
(Titanium compounds)

OSIPOV, O.A.; KLETENIK, Yu.B.

Reaction of zirconium chloride with organic additives having
various functional groups. Zhur.ob.khim. 31 no.8:2451-2456 Ag
'61. (MIRA 14:8)

(Zirconium chloride)
(Zirconium organic compounds)

KLETENIK, Yu.B.

Extraction of trivalent iron by isoamyl phosphoric acid solutions.
Izv. Sib. otd. AN SSSR no.6:79-67 '62 (MIRA 17:7)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN
SSSR, Novosibirsk.

LEVIN, I.S.; KLETENIK, Yu.B.

Conference on Extraction in Analytical Chemistry. Zav.lab.
28 no.4:516-517 '62. (MIRA 15:5)
(Extraction (Chemistry)—Congresses)
(Chemistry, Analytical)

KLETENIK, Yu.B.

Separation of iron by extraction for its quantitative determination. Zhur.anal.khim. 17 no.7:868-873 O '62. (MIRA 15:12)

1. Chemico-Metallurgical Institute, Academy of Sciences of the U.S.S.R., Siberian Department, Novosibirsk.
(Iron—Analysis) (Extraction (Chemistry))

KLETENIK, Yu.B.

New extraction-photometric method for the determination of titanium. Report No.1: Peroxide complex of titanium in an isoamylphosphoric extract. Zhur.anal.khim. 17 no.9:1063-1067 D '62. (MIRA 16:2)

1. Chemico-Metallurgical Institute, Academy of Sciences,
U.S.S.R., Siberian Department, Novosibirsk.
(Titanium—Analysis)
(Photometry)

S/075/63/018/001/007/010
E071/E492

AUTHOR: Kletenik, Yu.B.

TITLE: A new extraction-photometric method of determining titanium. Communication II. Stabilisation of diisoamylpyrophosphoric acid. Determination of titanium in solutions of various compositions

PERIODICAL: Zhurnal analiticheskoy khimii, v.18, no.1, 1963, 66-70

TEXT: Tetravalent titanium can be extracted with 1N benzene solution of a mixture of diisoamylorthophosphoric and diisoamylpyrophosphoric acids with a wide range of concentrations of sulphuric, hydrochloric and nitric acids. On shaking the extract with hydrogen peroxide a coloured titanium complex is formed which can be extracted with benzene and can be used for the photometric determination of titanium directly in the extract. The results of application of this method for the determination of titanium in solutions of various composition are given. The efficiency of the extraction of titanium depends on the content of diisoamylpyrophosphoric acid. It was found that the reagent, which hydrolyses on storing, can be stabilised by an addition of pyridine or aniline, the former being used in all experiments as more suitable.
Card 1/2

A new extraction-photometric ...

8/075/63/018/001/007/010
E071/E452

The method developed for the determination of titanium consists in its extraction from strongly acid solutions with a benzene solution of a mixture of isoamylphosphoric acids, formation of peroxide complex of titanium diisoamylpyrophosphate, separation of the organic and aqueous phases, dilution of the organic phase to a known volume with ethyl alcohol and determination of its optical density. The maximum relative error for solutions containing 20 mg/l of TiO_2 amounted to $\pm 6\%$ and for solutions containing 500 mg/l $\pm 3\%$. The presence of large quantities of coloured cations (Co , Ni , Cu , Cr^{3+}) does not interfere in the determination; however, trivalent iron should not exceed 2 g/l and aluminium 10 g/l. There are 2 tables.

ASSOCIATION: Khimiko-metallurgicheskiy institut Sibirskogo
Otdeleniya AN SSSR, Novosibirsk (Chemical Metallurgical
Institute, Siberian Branch AS USSR, Novosibirsk)

SUBMITTED: May 9, 1962

Card 2/2

KLETENIK, Yu.B. (Novosibirsk)

Design of a mixer for studying the kinetics of rapid reactions
in solutions by the flow method. Zhur. fiz. khim. 37 no.5:
1193-1195 My '63. (MIRA 17:1)

KLETENIK, Yu.B.; BYKHOVSKAYA, I.A.

Determination of iron by extraction with 2-ethylhexylphosphoric acids.
Zav.lab. 29 no.11:1306-1307 '63. (MIRA 16:12)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR.

KLETENIK, Yu.B., kand. khim. nauk, otv. red.; TAMASOVA, N.V.,
red.

[Chemical analysis of nonferrous and rare metals] Khimicheskii analiz tsvetrykh i redkikh metallov. Novosibirsk, Red.-izd. otdel Sibirskogo otd-niia AN SSSR, 1964. 158 p.
(MIRA 18:1)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Khimiko-metallurgicheskii institut.

ACCESSION NR: AP4014223

8/0075/64/019/002/0208/0211

AUTHOR: Kletenik, Yu. B.

TITLE: A new extraction photometric method for determining titanium
3. The use of an ethanol solution of hydrogen peroxide.
Determining titanium in solutions containing fluorine ions

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 2, 1964, 208-211

TOPIC TAGS: titanium, titanium determination, extraction photometric
analysis, fluoride masking, titanium peroxide complex, benzene iso-
amylphosphoric acid extraction

ABSTRACT: The possibility of using an ethanol solution of hydrogen
peroxide to form a peroxide titanium complex in a benzene-isoamyl-
phosphoric extract has been studied. By using this solution the de-
pendence of the color intensity of the extract upon the pyrophosphor-
ic ester content is greatly decreased, thus increasing the accuracy
of the titanium determination and making the extraction concentration

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ACCESSION NR: AP4014223

of small amounts of titanium possible. A method was developed for the extraction determination of titanium in solutions containing fluorine ions which normally suppress the extraction of titanium when isoamylphosphoric acid is used. Masking of the fluoride ions with aluminum is most effective (beryllium and boric acid were also tried). Almost complete extraction of titanium from fluoride-containing solutions is possible if sufficient aluminum (F:Al ratio must not exceed 2:1) is added and the extraction is conducted in 1-5N H_2SO_4 or HCl. Orig. art. has: 2 tables and 1 figure..

ASSOCIATION: Khimiko-metallurgicheskii institut Sibirskogo otdeleniya AN SSSR, Novosibirsk (Chemico-Metallurgical Institute, Siberian Division, AN SSSR)

SUBMITTED: 11Feb63

DATE ACQ: 12Mar64

ENCL: 00

SUB CODE: CH

NO REF SOV: 003

OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/19/2000

AP5008008

510.86 65 007 001/0110/0113

Author: Kletenik, Yu. B.; Levin, I. S.

Title: Reaction of mono-2-ethylhexylphosphoric acid with tributylphosphate in octane

SOURCE: Radiokhimiya, v. 7, no. 1, 1965, 110-113

TOPIC TAGS: ethylhexylphosphoric acid, tributylphosphate, octane, heat of reaction

ABSTRACT: The purpose of this article was to study the isomolar series of mono-2-ethylhexylphosphoric acid (M2EHP) and tributylphosphate (TBP) in water-saturated octane solutions. Measurement of the heats of mixing was done in an adiabatic calorimeter with an isothermal jacket. The heats of mixing obtained cannot be used directly for the determination of the heat of the reaction of M2EHP and TBP because in addition to the heat of reaction there are heat effects due to the dilution of components. In addition to this, a significant amount of the water phase is liberated upon mixing of the homogeneous components. This indicates that the complexation process is accompanied by dehydration of the components. Two molecular compounds

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L 44284-65

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apparently exist in which the ratios of MZEMP to TBP are 1:1 and 2:1. Orig. art.
has 2 figures.

ASSOCIATION: none

SUBMITTED 02Jan64

ENCL: CO

SUB CODE: GC, OC

NO REF SV 007

OTHER: 024

Beck
Card 2/2

L 56017-65 ENT(m)/ENP(t)/ENP(b) IJP(c) JD

ACCESSION NR: AP5013499

UR/0075/65/020/005/0567/0573
543.70

25
24
B

AUTHOR: Kletenik, Yu. B.; Bykhovskaya, I. A.

TITLE: Extraction of titanium using 2-ethylhexylphosphoric acids

SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 3, 1965, 567-573

TOPIC TAGS: titanium, extracting agent, chemical analysis

ABSTRACT: The purpose of this work was to develop a more sensitive method for the determination of titanium, based on its extraction using benzene solutions of di-2-ethylhexylphosphoric acids. Titanium was reextracted into the aqueous phase using hydrogen peroxide and tributylphosphate simultaneously. The mixture of mono- and di-2-ethylhexylorthophosphoric acids was produced by reacting 2-ethylhexyl alcohol with phosphorus pentoxide followed by hydrolysis of the pyrophosphate. It was shown that mono-2-ethylhexylphosphoric acid extracts titanium rapidly and with a high distribution coefficient from sulfuric, hydrochloric and nitric acid solutions in a broad range of concentrations of these acids. The extracting using di-2-ethylhexylphosphoric acid is less favorable. In the case of mono-2-ethylhexyl-

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ACCESSION NR: AP5013499

phosphoric acid a single reextraction with hydrogen peroxide in 5 N H_2SO_4 recovers 98% of the Ti into the aqueous phase. It was found that reextraction from mono-2-ethylhexylphosphoric acid is also better than from di-2-ethylhexylphosphoric acid. It is shown that the proposed extraction method for concentration and separation of titanium is widely applicable to a variety of problems in the treatment of titanium. (orig. art. has: 7 tables.

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May 64

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P 100 10, MM

GTICR. 100

Card 2/2

OSIPOV, O.A.; MINKIN, V.I.; KLETENIK, Yu.V.

[Manual on dipole moments] Spravochnik po dipol'nym momentam. Rostov-na-Donu, Izd-vo Rostovskogo univ., 1961.
248 p. (MIRA 17:10)

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Contribution to the diagnosis of liver abscess. Cesk. gastroent.
vys. 15 no.4:273-275 Je '61.

1. Vnitřní oddelení OUNZ Beroun, prim. dr. Vladislav Havel
Chirurgické oddelení OUNZ Beroun, prim. dr. Jaroslav Holický.
(LIVER ABSCESS diag)

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Experience with polyethylene pipe for carrying highly mineralized
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KLETENSKY, Josef, inz.

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1. Ministerstvo zemědělství, lesního a vodního hospodářství,
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Practice in organizing twenty-four hour shift mixed brigades in
Donets Basin mines. Sots. trud 7 no.12:110-113 B '62. (MIRA 16:2)

1. Donetskij sovet' narodnogo khozyaystva.
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Efficient means for determining the potentials of improvement
in mine operations. Ugol' Ukr. no.6:10-12 Je '61.

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of the Lugansk miners. Ugol' Ukr. 6 no.6:25-26 Je '62.
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1. Zamestitel' nachal'nika otдела truda i zarabotnoy platy
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Economic Region. Ugol' Ukr. 6 no.11:4-6 M '62. (MIRA 15:12)

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KLAFIN, M.

That is how we work with children. Zhil.-kon. khos. 8 no.11:14-16
'58. (MIRA 11:12)

1.Sekretar' partorganizatsii domoupravleniya No.4055 g. Kiyava.
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Materials for the study of hematozoo parasites in rodents in
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(SIBERIA, EASTERN--DISEASES AND PESTS)

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Eastern Siberia. Report No.3. Izv. Irk.gos.protivochn.inst. 9:
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KLETS, B.I.; AHRUSTSELEVSKIY, V.P.; KOLESNIK, R.S.; KUDINOVA, L.S.;
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Susceptibility of tarbagans and Nversmann suslike to experimental
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1:15-17 '55. (MIRA 11:3)
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KLITS, N.I.; KOLMSNIK, R.S.; VYBOROV, G.P.

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Tos. i dokl. konf. Irk. gos.nauch.-issl.prirodochum. inst. no.2:

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(BRUCELLOSIS)

Klets EL

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Tss. i dokl.konf. Irk.gos.nauch.-issl.protivochum.inst. no.2:21-22
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~~Z.S.; OL'KOVA, N.V.~~

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OL'KOVA, N.V.; SMIRNOVA, L.A.

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USSR/ Human and Animal Morphology. Nervous System. 5-3
Peripheral Nervous System

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88429

Author : Klets, E. I.; Kolesnik, R. S.

Inst : Irkutsk Scientific Research Anti-Plague Institute of
Siberia and the Far East

Title : On the Problem of Investigation of the Vegetative
Ganglia in Guinea Pigs Infected with the Plague

Orig Pub: Izv. Irkutskogo n.-i. protivochn. in-ta Sibiri i
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Abstract: Twelve guinea pigs were infected with a virulent
strain of the pathogen of plague (No. 92); one
part of the animals simultaneously received anti-
plague serum, or luminal was given prior to the
infection. The superior cervical, the nodose and,

Card 1/2

51

USSR / Microbiology. Human and Animal Pathogens. F
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Abs Jour: Ref Zhur-Biol., No 2, 1959, 5598.

Author : Klets, E. I.; Kolesnik, R. S.

Inst : Irkutsk Sci. Res. Antiplague Institute of
Siberia and The Far East.

Title : Experimental and Morphological Data on the
Effects of Bivalent Living Plague Vaccine Upon
the Organism.

Orig Pub: Izv. Irkutskovo n.-i. protivochn. in-ta
Sibiri i Dal'n. Vost., 1957, 14, 188-206.

Abstract: No abstract.

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KLATS, H.I.

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